Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Currently Amended) A magnetic memory unit comprising:

a plurality of magnetic tunneling junctions for storing data, each of the plurality of magnetic tunneling junctions including a first ferromagnetic layer, a second ferromagnetic layer and a first insulating layer between the first ferromagnetic layer and the second ferromagnetic layer;

a reference magnetic tunneling junction including a third ferromagnetic layer, a fourth ferromagnetic layer and a second insulating layer between the third ferromagnetic layer and the fourth ferromagnetic layer; and

means, coupled with the plurality of magnetic tunneling junctions and the reference magnetic tunneling junction, for comparing a plurality of outputs of the plurality of magnetic tunneling junctions with a reference output of the reference magnetic tunneling junction;

wherein the plurality of magnetic tunneling junctions includes six magnetic tunneling junctions and wherein the magnetic memory is capable of storing eight bits.

6. (Original) The magnetic memory unit of claim 5 wherein the comparing means further includes a plurality of operational amplifiers, each of the plurality of operational amplifiers having a first input and a second input, the first input being coupled with a magnetic tunneling junction of the plurality of magnetic tunneling junctions, the second input being coupled with the reference magnetic tunneling junction.

7. (Original) The magnetic memory unit of claim 5 further comprising:

a plurality of current sources, a current source of the plurality of current source coupled with a corresponding magnetic tunneling junction of the plurality of magnetic tunneling junctions, and with the reference magnetic tunneling junction.

8. (Currently Amended) The magnetic memory unit of claim 5 further comprising:

a[[t]] plurality of write circuits coupled with the plurality of magnetic tunneling junctions and with the reference magnetic tunneling junction.

9. (Canceled)

10. (Currently Amended) A magnetic memory unit comprising:

a plurality of magnetic tunneling junctions for storing data, each of the plurality of magnetic tunneling junctions including a first ferromagnetic layer, a second ferromagnetic layer

and a first insulating layer between the first ferromagnetic layer and the second ferromagnetic layer;

a reference magnetic tunneling junction including a third ferromagnetic layer, a fourth ferromagnetic layer and a second insulating layer between the third ferromagnetic layer and the fourth ferromagnetic layer; and

means, coupled with the plurality of magnetic tunneling junctions and the reference magnetic tunneling junction, for comparing a plurality of outputs of the plurality of magnetic tunneling junctions with a reference output of the reference magnetic tunneling junction

~~The magnetic memory unit of claim 5~~ wherein the plurality of magnetic tunneling junctions includes eleven magnetic tunneling junctions and wherein the magnetic memory unit is capable of storing sixteen bits.

11. (Original) The magnetic memory unit of claim 5 wherein the magnetic memory unit is part of a magnetic random access memory.

12. (Original) A method for using a magnetic memory cell comprising the steps of:

(a) programming a first magnetic tunneling junction, the first magnetic tunneling junction including a first ferromagnetic layer, a second ferromagnetic layer and a first insulating layer between the first ferromagnetic layer and the second ferromagnetic layer;

(b) programming a reference magnetic tunneling junction including a third ferromagnetic layer, a fourth ferromagnetic layer and a second insulating layer between the third ferromagnetic layer and the fourth ferromagnetic layer; and

(c) comparing a first output of the first magnetic tunneling junctions with a reference output of the reference magnetic tunneling junction.

13. (New) A method for using a magnetic memory cell comprising the steps of:

(a) programming a plurality of magnetic tunneling junctions, the plurality of magnetic tunneling junctions further including a first number of magnetic tunneling junctions;

(b) programming a reference magnetic tunneling junction including a third ferromagnetic layer, a fourth ferromagnetic layer and a second insulating layer between the third ferromagnetic layer and the fourth ferromagnetic layer; and

(c) comparing a first output of each of the plurality of magnetic tunneling junctions with a reference output of the reference magnetic tunneling junction such that the plurality of magnetic tunneling junctions are capable of storing a number of bits greater than the first number plus one.

14. (New) A magnetic memory unit comprising:

a plurality of magnetic tunneling junctions for storing data, the plurality of magnetic tunneling junctions having a first number of magnetic tunneling junctions;

a reference magnetic tunneling junction; and

means, coupled with the plurality of magnetic tunneling junctions and the reference magnetic tunneling junction, for comparing a plurality of output of each of the plurality of magnetic tunneling junctions with a reference output of the reference magnetic tunneling junction;

wherein the plurality of magnetic tunneling junctions is capable of storing a number of bits, the number of bits being greater than the first number plus one.